



TORQ Analysis of Electricians to Glaziers

INPUT SECTION:

Transfer	Title	O*NET	Filters		
From Title:	Electricians	47-2111.00	Abilities:	Importance Level: 50	Weight: 1
To Title:	Glaziers	47-2121.00	Skills:	Importance Level: 69	Weight: 1
Labor Market Area:	Maine Statewide		Knowledge:	Importance Level: 69	Weight: 1












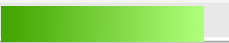



























OUTPUT SECTION:

Grand TORQ:				<div></div>				90			
Ability TORQ				Skills TORQ				Knowledge TORQ			
Level		<div></div> 91		Level		<div></div> 88		Level		<div></div> 92	
Gaps To Narrow if Possible				Upgrade These Skills				Knowledge to Add			
Ability	Level	Gap	Impt	Skill	Level	Gap	Impt	Knowledge	Level	Gap	Impt
No Critical Gaps Recorded!				Mathematics	54	2	71	No Knowledge Upgrades Required!			
LEVEL and IMPT (IMPORTANCE) refer to the Target Glaziers. GAP refers to level difference between Electricians and Glaziers.											

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ASK ANALYSIS

Ability Level Comparison - Abilities with importance scores over 50

Description	Electricians	Glaziers	Importance
Arm-Hand Steadiness	60 	44 	62 
Near Vision	64 	44 	62 
Trunk Strength	55 	42 	59 
Oral Expression	66 	46 	56 
Manual Dexterity	55 	39 	56 
Finger Dexterity	62 	44 	56 
Oral Comprehension	57 	51 	53 
Written Comprehension	59 	44 	53 
Problem Sensitivity	69 	41 	53 
Deductive Reasoning	59 	37 	50 
Inductive Reasoning	62 	37 	50 
Information Ordering	64 	41 	50 
Control Precision	55 	42 	50 

Skill Level Comparison - Abilities with importance scores over 69

Description	Electricians	Glaziers	Importance
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Active Listening	53	44	76
Mathematics	52	54	71
Knowledge Level Comparison - Knowledge with importance scores over 69			
Description	Electricians	Glaziers	Importance
Building and Construction	70	63	75

Experience & Education Comparison

Related Work Experience Comparison			Required Education Level Comparison		
Description	Electricians	Glaziers	Description	Electricians	Glaziers
10+ years	15%	2%	Doctoral	0%	0%
8-10 years	0%	0%	Professional Degree	0%	0%
6-8 years	0%	4%	Post-Masters Cert	0%	0%
4-6 years	7%	40%	Master's Degree	0%	10%
2-4 years	13%	2%	Post-Bachelor Cert	0%	0%
1-2 years	30%	5%	Bachelors	0%	0%
6-12 months	13%	25%	AA or Equiv	1%	0%
3-6 months	0%	0%	Some College	3%	0%
1-3 months	0%	0%	Post-Secondary Certificate	40%	1%
0-1 month	3%	0%	High School Diploma or GED	30%	84%
None	14%	18%	No HSD or GED	23%	2%

Electricians

Glaziers

Most Common Educational/Training Requirement:

Long-term on-the-job training

Long-term on-the-job training

Job Zone Comparison

3 - Job Zone Three: Medium Preparation Needed

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Previous work-related skill, knowledge, or experience is required for these occupations. For example, an electrician must have completed three or four years of apprenticeship or several years of vocational training, and often must have passed a licensing exam, in order to perform the job.

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Employees in these occupations usually need one or two years of training involving both on-the-job experience and informal training with experienced workers.

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Tasks

Electricians

Glaziers

Core Tasks

Core Tasks



Generalized Work Activities:

- Making Decisions and Solving Problems - Analyzing information and evaluating results to choose the best solution and solve problems.
- Communicating with Supervisors, Peers, or Subordinates - Providing information to supervisors, co-workers, and subordinates by telephone, in written form, e-mail, or in person.
- Performing General Physical Activities - Performing physical activities that require considerable use of your arms and legs and moving your whole body, such as climbing, lifting, balancing, walking, stooping, and handling of materials.
- Organizing, Planning, and Prioritizing Work - Developing specific goals and plans to prioritize, organize, and accomplish your work.
- Updating and Using Relevant Knowledge - Keeping up-to-date technically and applying new knowledge to your job.

Specific Tasks

Occupation Specific Tasks:

- Advise management on whether continued operation of equipment could be hazardous.
- Assemble, install, test, and maintain electrical or electronic wiring, equipment, appliances, apparatus, and fixtures, using hand tools and power tools.
- Connect wires to circuit breakers, transformers, or other components.
- Construct and fabricate parts, using hand tools and specifications.
- Diagnose malfunctioning systems, apparatus, and components, using test equipment and hand tools, to locate the cause of a breakdown and correct the problem.
- Direct and train workers to install, maintain, or repair electrical wiring, equipment, and fixtures.
- Fasten small metal or plastic boxes to walls to house electrical switches or outlets.
- Inspect electrical systems, equipment, and components to identify hazards, defects, and the need for adjustment or repair, and to ensure compliance with codes.
- Install ground leads and connect power cables to equipment, such as motors.
- Maintain current electrician's license or identification card to meet governmental regulations.
- Perform business management duties such as maintaining records and files, preparing reports and ordering supplies and equipment.

Generalized Work Activities:

- Handling and Moving Objects - Using hands and arms in handling, installing, positioning, and moving materials, and manipulating things.
- Performing General Physical Activities - Performing physical activities that require considerable use of your arms and legs and moving your whole body, such as climbing, lifting, balancing, walking, stooping, and handling of materials.
- Getting Information - Observing, receiving, and otherwise obtaining information from all relevant sources.
- Communicating with Supervisors, Peers, or Subordinates - Providing information to supervisors, co-workers, and subordinates by telephone, in written form, e-mail, or in person.
- Communicating with Persons Outside Organization - Communicating with people outside the organization, representing the organization to customers, the public, government, and other external sources. This information can be exchanged in person, in writing, or by telephone or e-mail.

Specific Tasks

Occupation Specific Tasks:

- Assemble and cement sections of stained glass together.
- Assemble, erect, and dismantle scaffolds, rigging, and hoisting equipment.
- Confer with customers to determine project requirements and to provide cost estimates.
- Create patterns on glass by etching, sandblasting, or painting designs.
- Cut and attach mounting strips, metal or wood moldings, rubber gaskets, or metal clips to surfaces in preparation for mirror installation.
- Cut and remove broken glass prior to installing replacement glass.
- Cut, assemble, fit, and attach metal-framed glass enclosures for showers, bathtubs, display cases, skylights, solariums, and other structures.
- Cut, fit, install, repair, and replace glass and glass substitutes, such as plastic and aluminum, in building interiors or exteriors and in furniture or other products.
- Determine plumb of walls or ceilings, using plumb-lines and levels.
- Drive trucks to installation sites, and unload mirrors, glass equipment, and tools.
- Fabricate and install metal sashes and moldings for glass installation, using aluminum or steel framing.
- Fasten glass panes into wood sashes or



- Perform physically demanding tasks, such as digging trenches to lay conduit and moving and lifting heavy objects.
- Place conduit, pipes or tubing, inside designated partitions, walls, or other concealed areas, and pull insulated wires or cables through the conduit to complete circuits between boxes.
- Plan layout and installation of electrical wiring, equipment and fixtures, based on job specifications and local codes.
- Prepare sketches or follow blueprints to determine the location of wiring and equipment and to ensure conformance to building and safety codes.
- Provide assistance during emergencies by operating floodlights and generators, placing flares, and driving needed vehicles.
- Provide preliminary sketches and cost estimates for materials and services.
- Repair or replace wiring, equipment, and fixtures, using hand tools and power tools.
- Test electrical systems and continuity of circuits in electrical wiring, equipment, and fixtures, using testing devices such as ohmmeters, voltmeters, and oscilloscopes, to ensure compatibility and safety of system.
- Use a variety of tools and equipment such as power construction equipment, measuring devices, power tools, and testing equipment including oscilloscopes, ammeters, and test lamps.
- Work from ladders, scaffolds, and roofs to install, maintain or repair electrical wiring, equipment, and fixtures.

Detailed Tasks

Detailed Work Activities:

- adhere to safety procedures
- analyze operation of malfunctioning electrical or electronic equipment
- bend tubing or conduit
- climb ladders, scaffolding, or utility or telephone poles
- conduct training for personnel
- confer with management or users
- construct or fabricate electrical parts or fixtures
- direct and coordinate activities of workers or staff
- distinguish colors
- drive automobile, van, or light truck
- estimate cost for repair services
- fabricate, assemble, or disassemble manufactured products by hand
- inspect electrical installation for code conformance
- install electrical conduit or tubing
- install electrical fixtures or components

frames with clips, points, or moldings, adding weather seals or putty around pane edges to seal joints.

- Grind and polish glass, and smooth edges when necessary.
- Install pre-assembled metal or wood frameworks for windows or doors to be fitted with glass panels, using hand tools.
- Load and arrange glass and mirrors onto delivery trucks, using suction cups or cranes to lift glass.
- Measure and mark outlines or patterns on glass to indicate cutting lines.
- Measure mirrors and dimensions of areas to be covered in order to determine work procedures.
- Measure, cut, fit, and press anti-glare adhesive film to glass, or spray glass with tinting solution to prevent light glare.
- Move furniture to clear work sites, and cover floors and furnishings with drop cloths.
- Operate cranes or hoists with suction cups to lift large, heavy pieces of glass.
- Pack spaces between moldings and glass with glazing compounds, and trim excess material with glazing knives.
- Prepare glass for cutting by resting it on rack edges or against cutting tables, and brushing thin layer of oil along cutting lines or dipping cutting tools in oil.
- Read and interpret blueprints and specifications to determine size, shape, color, type, and thickness of glass, location of framing, installation procedures, and staging and scaffolding materials required.
- Score glass with cutters' wheels, breaking off excess glass by hand or with notched tools.
- Secure mirrors in position, using mastic cement, putty, bolts, or screws.
- Select the type and color of glass or mirror according to specifications.
- Set glass doors into frames, and bolt metal hinges, handles, locks, and other hardware to attach doors to frames and walls.

Detailed Tasks

Detailed Work Activities:

- adhere to safety procedures
- apply adhesives, caulking, sealants, or coatings
- build or repair structures in construction, repair, or manufacturing setting
- climb ladders, scaffolding, or utility or telephone poles
- cover surfaces with masking tape or drop cloths
- cut or shape glass



- install electronic power, communication, control, or security equipment or systems
- install lead-in wires to control boxes and other components
- install or replace meters, regulators, or related measuring or control devices
- install/connect electrical equipment to power circuit
- install/string electrical or electronic cable or wiring
- lay out electrical wiring for buildings, etc.
- maintain electrician's tools or equipment
- maintain records, reports, or files
- move or fit heavy objects
- order or purchase supplies, materials, or equipment
- perform safety inspections in construction or resource extraction setting
- perform safety inspections in industrial, manufacturing or repair setting
- plan layout of electrical/electronic equipment installation
- plan or organize work
- prepare reports
- read blueprints
- read tape measure
- read technical drawings
- repair electronic components, equipment, or systems
- repair or adjust measuring or control devices
- repair or replace electrical wiring, circuits, fixtures, or equipment
- replace electronic components
- solder electrical or electronic connections or components
- splice electric cable
- splice electric or communications trunk lines
- test electrical/electronic wiring, equipment, systems or fixtures
- test electronic or electrical circuit connections
- understand service or repair manuals
- use electrical or electronic test devices or equipment
- use hand or power tools
- use high voltage apparatus
- use interpersonal communication techniques
- use measuring devices in construction or extraction work
- use oscilloscopes in electronics repair
- use soldering equipment
- use voltmeter, ammeter, or ohmmeter

Technology - Examples

- determine material or tool requirements
- drive automobile, van, or light truck
- erect scaffold
- fabricate, assemble, or disassemble manufactured products by hand
- install locks, hinges, or related finish hardware
- install or replace glass in windows, skylights, or other structural surfaces
- install prefabricated building components
- load, unload, or stack containers, materials, or products
- measure and mark reference points or cutting lines on workpieces
- move or fit heavy objects
- paint walls or other structural surfaces
- perform safety inspections in construction or resource extraction setting
- read blueprints
- read tape measure
- read technical drawings
- understand construction specifications
- use hand or power tools
- use measuring devices in construction or extraction work
- verify levelness or verticality, using level or plumb bob

Technology - Examples

Computer aided design CAD software

- D-CALC FACADE 4000

Facilities management software

- Work order software

Project management software

- American Glazing Software AGS WindowPricer
- Bid Master software
- Constructive Computing QuickEST Windows

Tools - Examples

- Adjustable widemouth pliers
- Adjustable wrenches
- Spreader beams
- Sliding bevels
- Propane torches
- Cold chisels
- Countersinks
- Power hammers



Accounting software

- Turtle Creek Software Goldenseal

Analytical or scientific software

- Electrosoft FlashWorks

- Elite ECOORD

- Elite Software Inpoint

- Elite Software Outpoint

- Elite Software Short

- Elite Software VDROP

- Lighting calculation software

- SoftEmpire Electrical Calculations

Computer aided design CAD software

- Computer aided design CAD software

- One Mile Up Panel Planner

- SmartDraw software

Data base user interface and query software

- Database software

- Insight Direct ServiceCEO

- Resolve service management software

- Shafer Service Systems software

- Timberline Office

Project management software

- Construction Master Pro software

- Craftsman CD Estimator

Spreadsheet software

- Spreadsheet software

Word processing software

- Socrates Contractor's Library

- Word processing software

Tools - Examples

- Pump pliers

- Adjustable wrenches

- Air compressors

- Ammeters

- AWMs

- Desktop computers

- Glass dollies

- Glass drilling machines

- Safety lanyards

- Bastard files

- Glass pliers

- Forklifts

- Automatic cutting tables

- Safety goggles

- Automatic diamond wheel edgers

- Claw hammers

- Glass clamps

- Sprayers

- Hard hats

- Allen wrenches

- Hoists

- Glass holders

- Ladders

- Leg protectors

- Builders' levels

- Lifelines

- Lifting hooks

- Glass lifters

- Duck-billed locking pliers

- Mallets

- Bosun chairs

- Aviation snips

- Milling machines

- Nibblers

- Nut drivers

- Open end wrenches

- Platform lifts

- Plumb bobs



- Backhoes
- Cable tie guns
- Bandsaws
- Cutting torches
- Insulated bolt cutters
- Bear claw wire threaders
- Single reel cable trailers
- Cable splicing knives
- Inductance testers
- Resistance bridges
- Capacitance testers
- Bucket trucks
- Circuit testers
- Circuit tracers
- Current clamps
- Cable benders
- Truck cranes
- Conduit deburring tools
- Desktop computers
- Diagonal cut pliers
- Drill bits
- Frequency meters
- End cutting pliers
- Feeler gauges
- Fish tape pullers
- Fuse pulling equipment
- Gas leak detection devices
- Generators
- Ground fault circuit interrupter GFCI testers
- Claw hammers
- Hard hats
- Heat guns
- Allen wrenches

- Plumb bobs
- Sandblasting equipment
- Point drivers
- Cordless drills
- Bench grinders
- Drum sanders
- Cutoff saws
- Power screw guns
- Water blasting equipment
- Protective aprons
- Glass gloves
- Protective sleeves
- Pry bars
- Putty knives
- Ratchet sets
- Edge scrapers
- Respirators
- Riveting equipment
- Rulers
- Hacksaws
- Scaffolding
- Flat screwdrivers
- Scoring tools
- Hand seamers
- Slings
- Soldering equipment
- Spatulas
- Combination squares
- Straightedges
- Vacuum cups
- Measuring tapes
- Glass tongs
- Torque wrenches



• Other wrenches

- Hole saws
- Hydraulic presses
- Transfer impedance meters
- Cable labeling machines
- Ladders
- Laser printers
- Conduit levels
- Insulated pliers
- Channel lock pliers
- Heavy duty longnose pliers
- Lighted magnet pickups
- Inspection mirrors
- Manlifts
- Meggers
- Magnetic locators
- Depth gauges
- Multimeters
- Needlenose pliers
- Nibbler cutting tools
- Notebook computers
- Insulated nutdrivers
- Double-end can socket wrenches
- Ohmmeters
- Oscilloscopes
- Personal computers
- Personal digital assistants PDA
- Phase rotation meters
- Polyvinyl chloride PVC cutters
- Ratcheting pipe wrenches
- Laser plumb bobs
- Cordless drills
- Circular saws

- Triangles
- Utility knives
- Spot-welding equipment
- Wood chisels
- Overhead cranes
- Drill presses



- Cable gripping gloves
- Punchdown tools
- Razor knives
- Tapered reamers
- Respirators
- External snap ring pliers
- Protective safety glasses
- Hacksaws
- Scaffolding
- Cabinet tip screwdrivers
- Shears
- Insulated socket sets
- Butane soldering irons/torches
- Insulated wrenches
- Wire wrap guns
- Hydraulic punching tools
- Staple guns
- Strap wrenches
- Automatic insulation strippers
- Tablet computers
- Conduit measuring tapes
- Tap and die sets
- Tension gauges
- Infrared scanners
- Threading dies
- Tin snips
- Tongue and groove pliers
- Diggers
- Two way radios
- Utility knives
- Millimeters
- Wattmeters



- Welders
- Welding hoods
- Soldering tools
- Winches
- Electricians' scissors
- Crimping pliers
- Cable butt trimmers

Labor Market Comparison

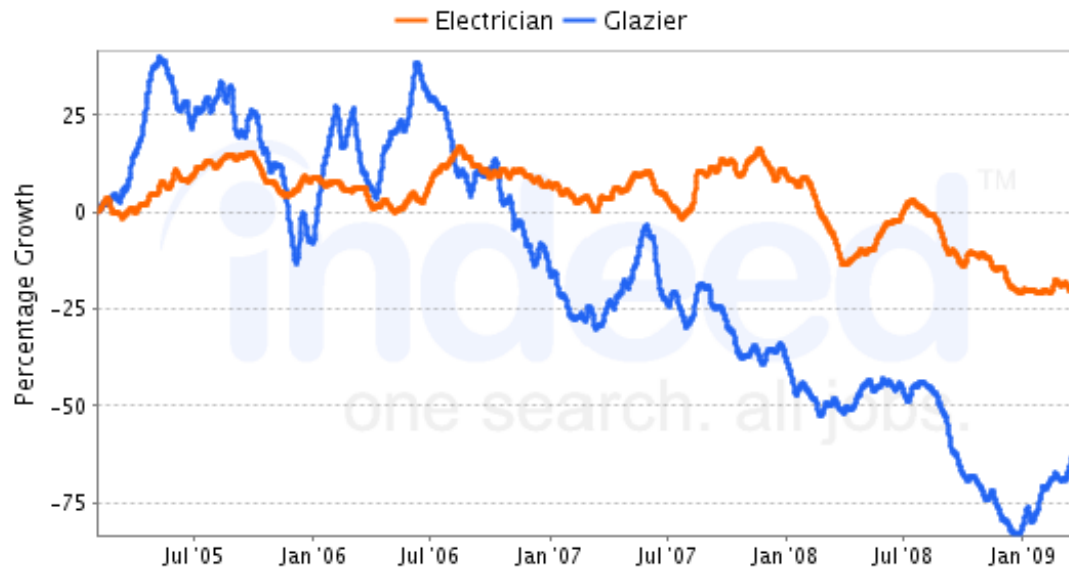
Description	Electricians	Glaziers	Difference
Median Wage	\$ 43,650	\$ 29,640	\$(14,010)
10th Percentile Wage	\$ 32,680	\$ 25,480	\$(7,200)
25th Percentile Wage	N/A	N/A	N/A
75th Percentile Wage	\$ 49,050	\$ 32,460	\$(16,590)
90th Percentile Wage	\$ 52,890	\$ 38,660	\$(14,230)
Mean Wage	\$ 43,700	\$ 30,350	\$(13,350)
Total Employment - 2007	2,910	N/A	N/A
Employment Base - 2006	3,304	211	-3,093
Projected Employment - 2016	3,340	210	-3,130
Projected Job Growth - 2006-2016	1.1 %	-0.5 %	-1.6 %
Projected Annual Openings - 2006-2016	89	4	-85

National Job Posting Trends

Trend for Electricians

Trend for
Glaziers

Job Trends from Indeed.com

Data from [Indeed](http://Indeed.com)

Recommended Programs

Glazier

Glazier. A program that prepares individuals to apply technical knowledge and skills to install and repair fixtures, sheets, windows, and skylights made of glass, plexiglass, and other transparent materials. Includes instruction in site measurement, job analysis and estimation, material cutting and trimming, window and door installation, site safety, equipment operation and maintenance, specification interpretation, and applicable codes and standards.

No schools available for the program

Construction Trades, Other

Construction Trades, Other. Any instructional program in construction trades not listed above.

No schools available for the program

Maine Statewide Promotion Opportunities for Electricians

O*NET Code	Title	Grand TORQ	Job Zone	Employment	Median Wage	Difference	Growth	Annual Job Openings
47-2111.00	Electricians	100	3	2,910	\$43,650.00	\$0.00	1%	89
47-4021.00	Elevator Installers and Repairers	86	4	0	\$50,960.00	\$7,310.00	0%	0
49-9051.00	Electrical Power-Line Installers and Repairers	85	3	280	\$47,750.00	\$4,100.00	9%	12
51-4192.00	Lay-Out Workers, Metal and Plastic	85	2	180	\$43,870.00	\$220.00	-24%	3
49-9012.00	Control and Valve Installers and Repairers, Except Mechanical Door	85	3	170	\$47,860.00	\$4,210.00	-9%	3
49-9052.00	Telecommunications Line Installers and Repairers	84	3	720	\$56,120.00	\$12,470.00	0%	19

51-4111.00	Tool and Die Makers	83	3	160	\$51,670.00	\$8,020.00	-11%	2
49-2094.00	Electrical and Electronics Repairers, Commercial and Industrial Equipment	82	3	440	\$49,450.00	\$5,800.00	-19%	15
49-2095.00	Electrical and Electronics Repairers, Powerhouse, Substation, and Relay	81	5	20	\$60,790.00	\$17,140.00	5%	1
47-1011.00	First-Line Supervisors/Managers of Construction Trades and Extraction Workers	79	3	3,190	\$46,630.00	\$2,980.00	3%	77
49-3011.00	Aircraft Mechanics and Service Technicians	79	3	210	\$44,280.00	\$630.00	-2%	2
47-5031.00	Explosives Workers, Ordnance Handling Experts, and Blasters	78	2	0	\$44,240.00	\$590.00	0%	0
17-3023.03	Electrical Engineering Technicians	77	3	430	\$45,180.00	\$1,530.00	-20%	9
49-9061.00	Camera and Photographic Equipment Repairers	77	3	0	\$44,660.00	\$1,010.00	0%	0
17-3027.00	Mechanical Engineering Technicians	76	3	130	\$44,890.00	\$1,240.00	2%	3

Top Industries for Glaziers

Industry	NAICS	% in Industry	Employment	Projected Employment	% Change
Building material and supplies dealers	444100	16.11%	8,857	11,112	25.46%
Self-employed workers, primary job	000601	5.26%	2,890	3,023	4.59%
Automotive body, paint, interior, and glass repair	811120	2.94%	1,619	1,855	14.63%
Architectural and structural metals manufacturing	332300	2.13%	1,173	1,230	4.86%
Glass and glass product manufacturing	327200	1.99%	1,096	939	-14.35%
Lumber and other construction materials merchant wholesalers	423300	0.79%	434	489	12.77%
Other wood product manufacturing	321900	0.36%	197	182	-7.48%
Elementary and secondary schools, public and private	611100	0.31%	173	179	3.46%
Nonresidential building construction	236200	0.31%	169	186	10.01%
Home furnishings stores	442200	0.28%	155	175	13.22%



Employment services	561300	0.25%	138	171	24.26%
Local government, excluding education and hospitals	939300	0.19%	106	117	10.29%
Roofing contractors	238160	0.18%	99	113	14.64%

Top Industries for Electricians

Industry	NAICS	% in Industry	Employment	Projected Employment	% Change
Electrical contractors	238210	62.85%	443,111	481,763	8.72%
Self-employed workers, primary job	000601	9.20%	64,835	71,620	10.46%
Local government, excluding education and hospitals	939300	2.23%	15,740	18,334	16.48%
Self-employed workers, secondary job	000602	1.55%	10,924	11,833	8.32%
Nonresidential building construction	236200	1.39%	9,799	11,384	16.18%
Employment services	561300	1.38%	9,746	8,313	-14.70%
Plumbing, heating, and air-conditioning contractors	238220	1.25%	8,792	10,294	17.09%
Motor vehicle parts manufacturing	336300	1.16%	8,149	6,727	-17.45%
Electric power generation, transmission and distribution	221100	1.01%	7,125	6,795	-4.64%
Colleges, universities, and professional schools, public and private	611300	0.89%	6,241	7,239	16.00%
Residential building construction	236100	0.77%	5,415	6,322	16.76%
Federal government, excluding postal service	919999	0.67%	4,750	4,656	-1.98%
Ship and boat building	336600	0.53%	3,766	4,370	16.06%
Coal mining	212100	0.48%	3,382	3,542	4.71%
State government, excluding education and hospitals	929200	0.47%	3,329	3,387	1.75%